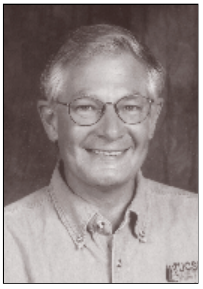


On the Water Front

Arsenic is a naturally occurring element found in the earth, in many foods, and in the human body. At high levels of concentration, arsenic has been linked to increased human cancer rates. You may have heard or read about arsenic recently. You're certainly going to hear more in the future. Here's why.

The safety of your water is always our first concern at Tucson Water. We make sure the water we deliver to you meets all the stringent water quality standards set by the U. S. Environmental Protection Agency (EPA) and the State of Arizona.

The arsenic regulation issue is one of the most significant that EPA has faced since the passage of the Safe Drinking Water Act in 1974. Current regulations limit the amount of arsenic in drinking water at 50 parts per billion (ppb).* The EPA is proposing to lower that standard to 5 ppb and has asked for public comment on that proposal, as well as on alternative proposed limits of 3, 10, and 20 ppb.

One of the most difficult arsenic issues yet to be resolved through medical research is the question of what level of arsenic must be present in drinking water to negatively impact health. In our comments to the EPA, we stress that any regulation must be set based on sound medical science.

If a standard of 5 ppb is officially adopted, at least 1/3 of Tucson's groundwater supply will be impacted. How Tucson Water could meet this new standard has not yet been determined, but because we must have adequate water supplies to meet customer needs, it would certainly require the design, construction and operation of one or more large treatment facilities capable of removing arsenic from drinking water. Arsenic removal would also increase our annual operating costs.

In order to determine the best arsenic-removal technology to use to meet our needs here in Tucson, and get a better handle on the costs involved, Tucson Water is working cooperatively with a large number of other water utilities around the country, with scientists at the U of A and elsewhere, and with the American Water Works Association Research Foundation.

We'll keep you informed about this issue and make any new information available to you as it is developed. Rest assured that the safety and quality of your water will always be our first concern.

David V. Modeer, Director, Tucson Water

* 1 ppb is roughly equivalent to 1 second of time in 31.7 years.

1900 - 2000
100 Years of Serving Tucson

Your Water Connection

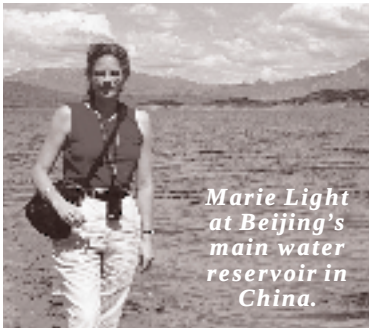
News & Tips FOR Tucson Water Customers

In This Issue:

October 2000 http://www.ci.tucson.az.us/water/

Hydrologist Marie Light Shares the Tucson Experience

China Taps Tucson Water Hydrologist for Information



Marie Light at Beijing's main water reservoir in China.

Water is not plentiful in northern China and recent low rainfall has added to this part of Asia's water problems. As Chinese experts work to develop new water sources, they have turned to Tucson Water for advice. Marie Light, a Tucson Water Hydrologist who has done much of the hydrological work on Tucson Water's many recharge projects, was invited to Qinghua University in Beijing in August to train University graduate students how to recharge treated wastewater.

Marie taught Chinese students how to create and operate a treated wastewater recharge project including how to design recharge basins, transport water to the site, operate water outlet structures, install and operate monitoring wells and other monitoring devices, construct recovery wells, and perform on-going operation and maintenance of facilities.

Marie's visit was funded by a United Nations program designed to promote the international exchange of technical information.

Water Quality in Isolated Systems is Consistent Year-Round

Tucson Water operates eight water systems that are not connected to the utility's main water distribution system. Because water for these systems comes from just a few nearby wells, the water quality does not fluctuate over time the way it can in larger water systems.

Each month in this newsletter you'll find water quality data for the main Tucson Water distribution system (see page 3). Once each year we will now also include data from these "isolated" water systems. Because of the constancy of the water quality in the systems, monthly updates would be simply repetitive. We hope our customers in these areas find this information of interest.

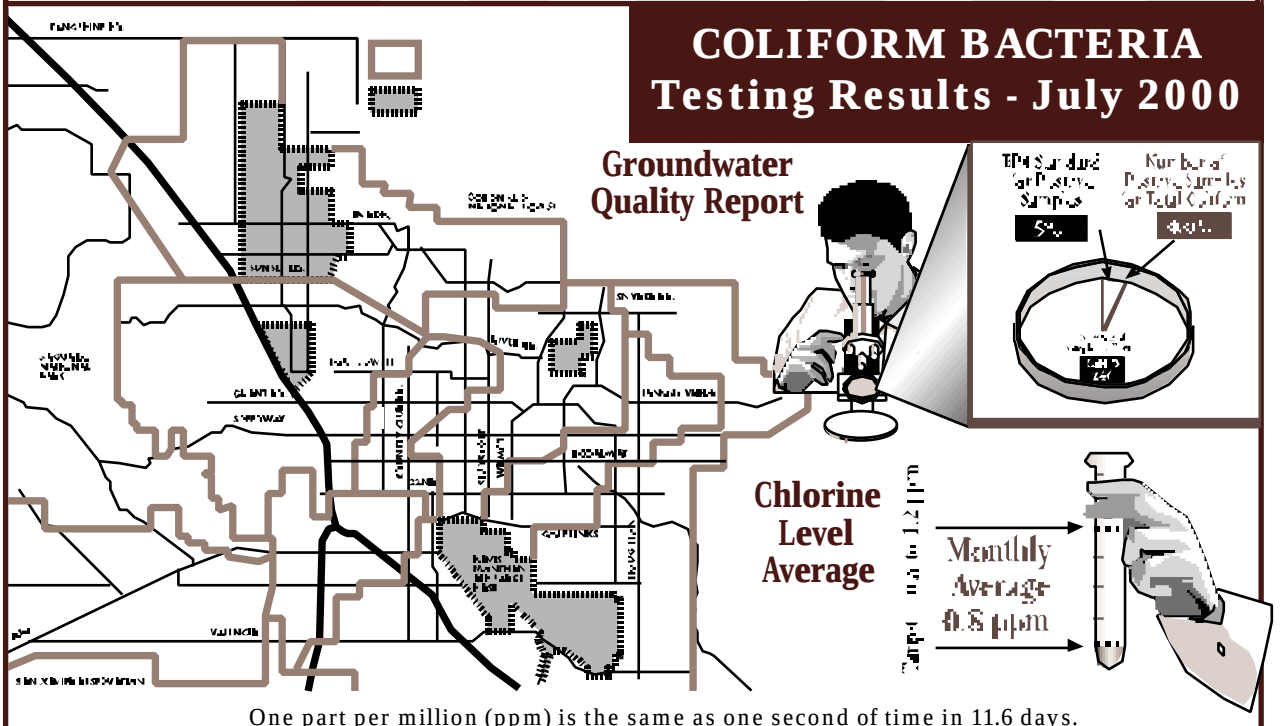
Water Quality Averages	CAT	CDT	DB	PFA	RL/WF	SW	TH	VVA
Sodium (ppm)	27	54	28	43	55	75	14	44
Mineral Content (ppm)	196	380	222	327	273	292	164	267
Hardness (ppm)	94	188	119	172	81	56	83	116
pH (units)	8.0	7.6	7.7	7.6	8.0	7.6	7.6	7.8
Temperature (deg F)	89	85	95	74	88	88	81	90
Chlorine (ppm)	0.8	0.8	0.7	0.6	0.8	1.2	0.4	0.7
Coliform (% Pos)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Isolated Systems Water Quality – July 2000

CAT = Catalina
CDT = Corona de Tucson
DB = Diamond Bell Ranch
PFA = Police/Fire Training Center
RL/WF = Rancho del Sol Lindo and White Fence Farms
SW = Silverbell West
TH = Thunderhead
VVA = Valley View Acres

GROUNDWATER QUALITY REPORT - July 2000

	Water Quality Zone	1	2	3	4	5	6	7	8	9	10	System Wide
Sodium (ppm)	Average	56	43	48	33	34	32	29	44	58	42	41
	Range	36-72	37-48	28-71	28-47	26-43	26-39	21-39	38-66	41-149	41-44	21-149
Mineral Content (ppm)	Average	389	293	328	229	228	233	215	313	305	224	268
	Range	195-534	250-330	196-537	189-544	168-284	188-289	158-293	252-438	219-595	220-228	158-595
Hardness (ppm)	Average	174	132	148	95	101	105	101	148	110	77	117
	Range	70-253	110-155	73-302	82-135	70-126	77-135	62-140	103-270	74-296	72-81	62-302
pH (units)	Average	7.7	7.8	7.8	7.9	7.7	7.6	7.7	7.7	7.8	7.8	7.8
	Range	7.5-8.2	7.5-8.0	7.5-8.3	7.6-8.2	7.1-8.1	7.0-8.3	7.2-8.0	7.3-7.9	7.3-8.2	7.7-8.0	7.0-8.3
Temperature (deg F)	Average	84	86	85	86	86	84	85	87	88	88	86
	Range	77-91	79-92	75-91	82-90	78-94	78-91	81-93	79-93	82-99	86-91	75-99



One part per million (ppm) is the same as one second of time in 11.6 days.

To give you a more accurate measurement of the water quality in your neighborhood, the Tucson Water service area has been divided into 10 zones based on differences in water pressure and water quality. For a detailed description of the zone boundaries, call 791-4331.

Building Tucson's Water Future

Clearwater Facility Update

The Clearwater Facility will bring billions of gallons of water each year to Tucson Water customers beginning in 2001. The Facility, located in Avra Valley west of Tucson, is currently under construction. It includes wells, a reservoir, a booster station, an 11 1/2 mile pipeline, and additional piping and operational facilities.

–Monsoons delay pipeline construction

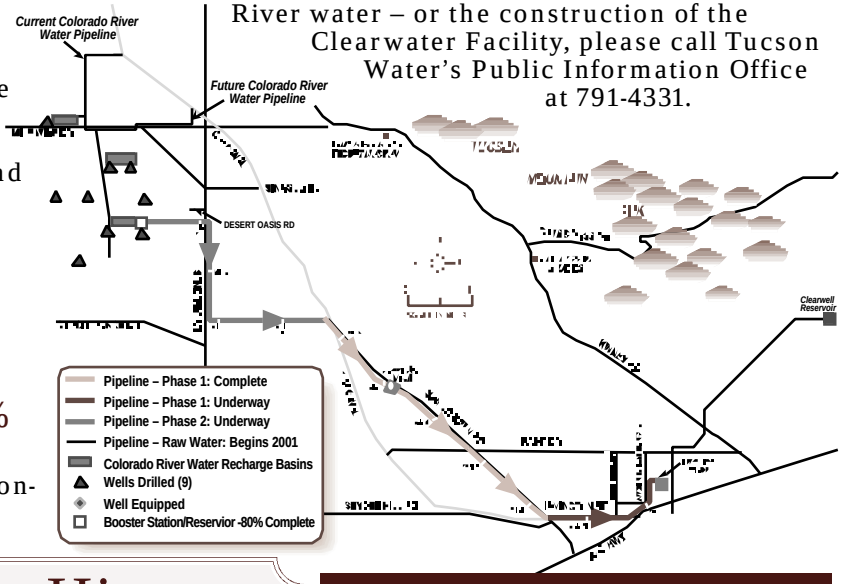
Flooding caused by monsoon rains in August caused some problems for pipeline crews working on the new Tucson Water Clearwater pipeline. The heavy rains flooded pipe trenches and caused delays in the installation of the 60" and 72" diameter pipe sections. Project engineers say that although troublesome, the setback will not significantly change the anticipated completion dates for the pipeline.

–Reservoir more than 80% complete

Construction of the 10 million-gallon water reservoir at Clearwater is more than 80 percent complete and should be finished during December. Blended water pumped from the water table nearby will be stored briefly here before being pumped to Tucson.

–How to get more information about Clearwater

If you have questions about the new Tucson Water – the naturally created blend of groundwater and recharged Colorado River water – or the construction of the Clearwater Facility, please call Tucson Water's Public Information Office at 791-4331.



Tucson Water History

In the 1940's Tucson's population began growing rapidly. Tucson Water installed new wells and storage tanks to meet rising demand for water.

Visit the Tucson Water Web Site at http://www.ci.tucson.az.us/water/

The Water Connection is produced by Tucson Water. To receive a copy, or to receive this information in Spanish, call 791-4331 or mail your request to: Customer Information, P.O. Box 27210, Tucson, AZ 85726-7210

City of Tucson
TTY number: 791-2639

Si usted desea este documento escrito en español, por favor, llame al 791-4331.